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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/589,822	08/17/2006	Koji Watanabe	060617	2431
23850	7590	01/24/2008		
KRATZ, QUINTOS & HANSON, LLP			EXAMINER	
1420 K Street, N.W.			LE, TUNG X	
Suite 400				
WASHINGTON, DC 20005			ART UNIT	PAPER NUMBER
			2821	
			MAIL DATE	DELIVERY MODE
			01/24/2008	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

10/589,822

Applicant(s)

WATANABE ET AL.

Examiner

Tung X. Le

Art Unit

2821

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 17 August 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,8,9,16,22 and 23 is/are rejected.
- 7) ☒ Claim(s) 2-7,10-15 and 17-21 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/ are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- ☒ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 8/17/06.
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- ☐ Notice of Informal Patent Application
- ☐ Other: \_\_\_\_\_.

### DETAILED ACTION

This Office Action is in response to the Applicants' communication filed on August 17, 2006. In virtue of this filing, claims 1-23 are currently presented in the instant application.

#### ***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 8-9, and 16 are rejected under 35 U.S.C. 102(b) as being anticipated by Kamoi et al. (U.S. 6,437,515 B1).

With respect to claim 1, Kamoi discloses in figure 14 a discharge lamp ballast, comprising a power converter (having a buck converter including an *inductor* [L2], an *switching component* connected between [L2] and [D11], and a *diode* connected between a low potential and a high potential connected at a node located between the component and the inductor [L2]) that includes at least one switching element (having the *switching component*) and is connected between a power source (having a DC power outputted from the rectifier [DB]) and a high intensity discharge lamp [La]; and a control circuit (having a control circuit including elements [V1a Detec., I1a Detec., W1a Detect Circ., and Drv. Circ]) that control an on/off state of the switching element so as to provide prescribed lamp power for the lamp based on lamp power control after the start of the lamp (column 13, lines 58-64); wherein the control circuit controls the on/off state

of the switching element [switching component] so that at least one of an effective value and a peak value (figure 16e shows an effective value and a peak value of the lamp current for starting up the lamp at the second period of time [II]) of the lamp power provided for the lamp is increasing more than that adjusted by constant lamp power control (having a constant power control at the third period of time of which are having a value smaller than the effective value or the starting up value of the lamp current) based on high power control after the start of the lamp, the constant lamp power control being control for adjusting the effective value of the lamp power provided for the lamp a prescribed power value (figure 16e).

With respect to claim 8, Kamoi discloses that the control circuit controls the on/off state of the switching element based on the high power control for a prescribed time period [I, II, or  $\tau$ ] immediately after reaching a stable state of the lamp (figure 16e shows the stable state of the lamp after the second time period [II]).

With respect to claim 9, Kamoi discloses that wherein after reaching a stable state (at the third time period shown in figures 16 and 19) of the lamp, control for on/off state of the switching element based on the constant lamp power control and control for the on/off state of the switching element based on the high power control are performed alternately and periodically through the control circuit (figures 16[d] to 20[4] show a high resonance voltage performing alternately and periodically in time periods).

With respect to claim 16, Kamoi discloses that the control circuit executes correction control (column 13, lines 58-64).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 22-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kamoi et al. (U.S. 6,437,515 B1) in view of Takahara (U.S. 6,992,718 B1).

With respect to claims 22 and 23, Kamoi discloses all of claimed subject matter, as expressly recited in claim 1, except for specifying that a projector comprising a color filter whose transmission color by light from the light source and the control circuit synchronizes timing of polarity inversion of the lamp voltage applied across the lamp.

Takahara discloses in figures 120-121 and 159 a discharge lamp ballast functioning as a projector for a projection display apparatus (column 110, lines 20-25) having a color filter [124] whose transmission color by light from the light source and control circuit synchronizes timing of polarity inversion of the lamp voltage applied across the lamp (column 73, lines 10-18).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the ballast circuit of Kamoi by employing the discharge ballast circuit including a projector having a filter color for transmitting color with polarity inversion of the lamp voltage applied across the lamp in order for preventing occurrence of flicker and inclination in the brightness for getting a desired images since such a use of projector having a filter for transmitting color for the stated purpose has been well

known in the art as evidenced by the teaching of Takahara (see column 73, lines 18-20).

***Allowable Subject Matter***

Claims 2-7, 10-15, and 17-21 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Citation of Relevant Prior Art***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Kamoi et al. (U.S. 6,958,580 B2) discloses an electronic ballast for a high intensity discharge lamp.

Lau (U.S. 6,181,084 B1) discloses a ballast circuit for high intensity discharge lamps.

***Inquiry***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tung X. Le whose telephone number is 571-272-6010. The examiner can normally be reached on 8:30 AM - 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Douglas Owens can be reached on 571-272-1662. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Examiner  
Tung Le  
AU 2821  
January 18, 2007

*Douglas W. Owens 1/19/08*

DOUGLAS W. OWENS  
SUPERVISORY PATENT EXAMINER